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1	UNITED STATES	BANKRUPTCY COURT
2	DISTRICT	OF DELAWARE
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5	In re:)
) NO. 01-01139 (JKF)
6	W.R. GRACE & CO., et al.,)
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7	Debtor.)
)
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14		THE TANK OF THE ORIGINAL MAD
15		WILLIAM G. HUGHSON, M.D.
16		Friday, June 6, 2003
17	Taken at:	3777 La Jolla Village Drive San Diego, California 92122
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18	Penerted by	Veronica S. Thompson
19	Reported by:	CSR No. 6056, RPR, CRR
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- 1 three negatives? There are two in the questions and one
- 2 in the answer.
- 3 THE WITNESS: To clarify it, I have no
- 4 independent reason or no objective data to conclude that
- 5 the dust, the asbestos dust that might be liberated by
- 6 disturbing ZAI would be nonrespirable. Okay. I
- 7 would -- I would expect that at least some of it would
- 8 be respirable based on the information I have.
- 9 BY MR. WARD:
- 10 Q Okay. In your report you state that there's
- 11 no peer-reviewed study linking exposure to ZAI to
- 12 disease. Would you agree with me that the asbestos
- 13 content of ZAI is something that has only recently been
- 14 brought to the public's attention?
- MR. FLATLEY: Object to the form.
- 16 THE WITNESS: I think that that's probably --
- 17 you know, by recently, I mean, my understanding is that
- 18 the EPA first went into Libby in 1999 -- so that's about
- 19 14 years ago. No. Excuse me. It's about four years
- 20 ago -- and that the sort of downstream concern about
- 21 attic insulation probably followed that. So, yeah, it
- 22 is a reasonably recent event.
- 23 BY MR. WARD:
- Q When were you first made aware of the issue of
- 25 whether or not Zonolite Attic Insulation contained

- 1 asbestos?
- 2 A Well, I don't know if I can answer that. I've
- 3 certainly been aware for a long time that vermiculite
- 4 was used for that purpose, and I don't know whether I
- 5 ever worried about it very much, but I always kind of
- 6 assumed that there would be some level of tremolite in
- 7 that material. But when did it really percolate to the
- 8 top of my attention? Probably around the time of the
- 9 Barbanti trial because that was -- you know, it was a
- 10 full-blown issue by that point.
- 11 Q Do you know whether or not Grace was ever able
- 12 to produce a bag of Zonolite attic insulation that
- 13 didn't contain some amount of tremolite?
- 14 A No.
- 15 Q I'm sorry?
- 16 A No, I'm not aware that they ever did or they
- 17 ever even tried. I would expect with this kind of
- 18 processing that at some point you just get to, you know,
- 19 diminishing returns where you could reprocess it forever
- 20 and eventually get down to a negligible change, but I
- 21 don't know what Grace did or didn't do with regard to --
- 22 to getting tremolite out of Zonolite. I just don't
- 23 know.
- 24 Q How would you propose -- if you set about to
- 25 do it, how would you propose to set up an

- 1 You can also have what are called cleavage fragments, which I believe are -- may be derived 2 3 originally from fibers but are created because of fracturing or breaking up of the tremolite fibers 4 5 presumably at least during the extraction of the ore or the processing of the ore. If there are other reasons -- if there are 7 other causes of cleavage fragments, I can't think of 8 them right now, but in the end point you have something 9 10 which is different from a mineralogic point of view than in the original fiber. And it's Dr. Ilgren's opinion 11 from my understanding that those cleavage fragments 12 behave differently because they don't bio-persist and 13 perhaps because of other factors. And I haven't labored 14 over the fact of Dr. Ilgren's opinion because that's his 15 area and not mine. 16 I can't tell you of a million tremolite fibers 17 in Zonolite what percentage of them are going to be 18 19 cleavage fragments versus fibers. You just don't know. Let me hand you, Doctor, what -- this is a 20 Q copy of your -- the deposition that you gave in the 21 Barbanti case. I just want to go through a few items 22 23 with you here. Let me -- did I hand --24 MR. FLATLEY: I have the highlighting. 25
 - A. WILLIAM ROBERTS, JR. & ASSOCIATES (800) 743-DEPO

- 1 MR. WARD: Can I have my copy back? I'm not
- 2 going to make it quite that easy, but I will give you
- 3 page numbers.
- 4 MR. FLATLEY: I thought maybe I could take
- 5 over and ask questions for a while.
- 6 BY MR. WARD:
- 7 Q Doctor, if I could refer you to page 22.
- 8 A Okay.
- 9 Q And the first full question -- I'll just read
- 10 it to you -- it says "Doctor, maybe we can save some
- 11 time. You don't expect to testify, I take it then, that
- 12 the tremolite and the vermiculite at Libby, Montana, and
- in attic insulation is predominantly cleavage
- 14 fragments?"
- Your answer was "No, I don't."
- And my question is, has your opinion on this
- 17 issue, to the extent you have one, changed from the time
- 18 you testified in the Barbanti case until today?
- 19 A No. I don't have any more information now
- 20 than I had then.
- 21 Q And I believe you testified earlier in your
- 22 deposition that you've never conducted any microscopic
- 23 research to differentiate between asbestiform fiber
- 24 versus non-asbestiform cleavage fragments?
- 25 A Correct.

- 1 Q Have you ever had occasion to look at Libby
- tremolite under the microscope?
- 3 A No, other than in pictures that I've seen.
- 4 O Just so I'm clear, you don't dispute that
- 5 there is some asbestiform tremolite in the Libby
- 6 vermiculite. And I recognize that you aren't prepared
- 7 to testify about percentages. You don't disagree there
- 8 is some fibrous tremolite in the Libby vermiculite?
- 9 A No, I don't. And in light of the Wright
- 10 article, it would be hard for me to argue about that.
- 11 O Do you have any opinions as to the health
- 12 effects from exposure to cleavage fragments?
- 13 A I've testified about this before. I think
- 14 that I'm mostly interested in particles that are long,
- 15 respirable, and durable. And I think that if a fiber
- 16 fits those criteria and there's sufficient exposure,
- 17 then at least in my mind there's a potential for
- 18 disease.
- 19 It's my understanding that -- I mean, I have
- 20 looked at some of the articles that have been -- and I'm
- 21 blocking on it now. I think Morgan, Keith Morgan
- 22 published a bit on this and pointed out that, you know,
- 23 there's really an absence of data indicating that
- 24 cleavage fragments cause disease. And I believe
- 25 Dr. Ilgren spent a day or so possibly with you

- 1 Q Right.
- 2 A The issue is, are there cases where women have
- 3 been described as getting mesothelioma from cleaning
- 4 their husbands clothes? Yes. Once the stuff gets in
- 5 the home, you know, this is talked about.
- 6 So I think the concept back 10 years ago, was
- 7 this being discussed as a mechanism of exposure?
- 8 Answer: Yes.
- 9 Q Let's get back to my example of ZAI spilled in
- 10 the living space of a home. Is it your opinion that,
- 11 for example, if the homeowner swept it up without using
- 12 any sort of wet method, is it your opinion that whatever
- 13 dust is left in the living space that's on the floor,
- 14 there's no potential for that dust to be re-entrained by
- 15 subsequent sweeping or vacuuming?
- 16 A No, I wouldn't say no potential, but I'd say
- 17 quite limited potential. It's obviously a function of
- 18 how good you are at cleaning things up. I mean, if
- 19 you're sloppy and leave a lot of the residue there, then
- 20 for some time it could be disturbed again. There could
- 21 be walking on it.
- 22 I mean, if you're talking about a real world
- 23 scenario where it's in the middle of the living room rug
- 24 and you have any kind of concern about the appearance of
- 25 your house, you're probably going to clean it up, and I

- 1 think the re-entrainment is going to be a limited -- of
- 2 limited potential.
- 3 And we know this to be true because of the air
- 4 sampling that's been done in homes that contain this
- 5 stuff. I mean, that -- the Lees article, I mean, they
- 6 went through all kinds of exercises: opening the attic,
- 7 closing the attic, going up in the attic and down in the
- 8 attic, and then looking at the levels of asbestos
- 9 throughout the home and the living spaces adjacent to
- 10 where the work was being done. There was no increased
- 11 level of asbestos.
- 12 Q Dr. Hughson, do you not think it would be
- important for purposes of the opinions that you're
- 14 giving in this case to look at the same types of
- 15 simulation tests done by the claimants' experts?
- 16 A I don't mind looking at them. I haven't
- 17 looked at them or been provided with them today.
- 18 Whether I will subsequently be given them, I don't know.
- 19 I would expect, you know, at trial that I would be
- 20 talking about, from a pulmonary and occupational
- 21 medicine point of view, an epidemiologic point of view,
- 22 about exposure levels and subsequent risks.
- 23 You know, I may be asked to make assumptions
- 24 about the levels of exposure on direct, and you may, at
- 25 cross examination, want to give me some different